

Attachment 1:

**Pryor Mountain Wild Horse Range
Environmental Assessment**

PMWHR EA BLM-MT-010-FY06-19

Summary of Public Comments and BLM Responses

Introduction:

The BiFO received 179 documents (520 pages of comments) in response to EA # MT-010-FY06-19 for the FY2006 proposed fertility control on the PMWHR. A complete list of individuals and groups that have responded are on file at BiFO as are all original submitted documents. Public members using Freedom of Information Act (FOIA) procedures may request these documents. Details can be provided by contacting BiFO.

All submissions were reviewed and comments were consolidated and summarized by major area of concern for BLM consideration. These areas included: 1) concerns regarding the use of fertility control; 2) concerns regarding gathers with/without fertility control; 3) concerns regarding herd size as related to genetic viability; 4) concerns over expanding the size of the designated wild horse range; 5) concerns regarding range condition and health, including results of the Natural Resources Conservation Service (NRCS) study (Ricketts, 2004); 6) concerns regarding opportunities to ban hunting of possible predators on the PMWHR; and 7) concerns regarding the overall management of the PMWHR. Forty of 179 comment letters received were considered substantive. Substantive comments are those which question, with reasonable basis, the accuracy of the information in the EA or the adequacy of, methodology for and/or assumptions used in the EA. All comments that did not pertain to the proposed implementation plan, including the proposed action or range of alternatives for wild horse population control, are being kept on file for future land use plan revisions including the on-going HMAP revision

Clarification and further interpretation is provided for the following issues of concern raised in relevant public comments.

1) Appropriate Management Level for the PMWHR

Under BLM national policy, AML is reported as the upper limit of a range of adult wild horses (six months and older) determined to be consistent with the objective of achieving and maintaining a thriving natural ecological balance and multiple-use relationship. This is also true for the PMWHR. The AML for the Pryors was revised in July 1992 and set within the narrow range of 85-105 wild horses. This revision was primarily based on range condition at that time, as well as the withdrawal of specific National Park Service lands from wild horse use (MT-025-2-18).

Since 2000, BLM has been reevaluating AML and has been conservative in terms of herd size reduction until necessary data were in place. BLM historical data suggests that a herd size averaging 143 horses over a 32 year (1971-2005) period has supported a genetically diverse herd in the Pryors (Cothran, 2002). However, updated studies on herd genetic diversity are expected to be released within the next year. Studies of range health have indicated that the designated range should support between 45-142 total horses, depending on seasonal use patterns (Ricketts, 2004). Repairs to existing mid-elevation water catchments in 2003 and 2006 are expected to assist in improving spring and fall horse distribution and grazing impacts. BLM will be evaluating these potential changes over the next several years.

Grazing impacts, over the last decade, have been light (20%) to moderate (60%) under an average total herd size of 164 horses (EA BLM-MT-010-FY06-19, Section 1.9) as well as other grazing species. Grazing impacts increased during the drought years 2000-2004 and were above proper use levels in most areas both summer and winter. Consistent with historical trends, the Park Service lands and southern reaches of the horse range are more heavily impacted by grazing. Impacts which exceed a proper-use factor of 40% are considered unacceptable under management objectives to allow for improving range conditions (Ricketts, 2004; Vallentine, 1990).

Although the biggest impacts to range health are weather and drought, these variables cannot be controlled, and in the short-term BLM must respond to concerns regarding grazing impacts exceeding proper-use levels. Climate monitoring indicates that there have been improvements in precipitation levels in 2005 and 2006, but drought conditions are expected to continue (<http://nris.state.mt.us/Drought/status>) in the area of the PMWHR. These data are all indicative of the need to prevent horse numbers from increasing beyond current levels. Population control efforts in 2006 will not reduce herd size below an estimated 155 horses. Range health and grazing impacts will be reevaluated in 2007 and any further adjustments in herd size will be proposed at that time according to appropriate laws, regulations and policy.

2) Selective Removal and PZP Treatment Policy

In the past, BLM has managed the herd to conserve the core breeding component, removing only younger animals for the adoption program. The latter is consistent with national selective removal policy for the BLM Wild Horse and Burro program. An estimated 11 bachelor stallions (4-8 years of age) and 11 yearlings have been determined excess and will be removed due to the need to reduce wild horse grazing impacts on the PMWHR. As with previous selective removals, the intent is not to remove any horses that are harem stallions or core breeding-age mares (6-10 years old) from the herd. Since the population structure is very fluid within the PMWHR, the selection of horses for removal may be re-evaluated and adjusted during bait-trapping activities.

The intent is also not to remove more than 50% of the horses from any given age class within the herd. Efforts will be made to selectively remove yearlings from over-represented breeding lineages on the range. Since the Pryor herd is relatively uniform in type, qualities not pertinent to the self-sustaining nature of the herd are generally not used

for removal criteria. However, management has previously recognized and will continue to retain horses of rare color. The final selection of individual horses to be removed may depend on a given animal's susceptibility to the bait-trapping effort.

In the past, fertility control has been applied only temporarily to younger mares that have not yet entered the breeding stage or older mares that have already contributed to the genetics of the herd. The treatment of younger mares has been suspended since 2004 when only 14% of the foals survived heightened natural mortality during that summer. Seven mares 16 years of age and older have already been treated with the Porcine Zona Pellucida (PZP) vaccine for at least one year and would continue to receive annual boosters for the remainder of their lives. Thirteen mares 12-15 years of age have also been treated for at least one year and would continue to receive boosters. Treatment with the immunocontraceptive Porcine Zona Pellucida (PZP) vaccine would continue annually through 2010. All mares that are 11 years of age would be added to the treatment program each year.

3) PZP Impacts on Mare Physiology

From a mare physiological standpoint, PZP contraception has no impact on mare hormone secretion or developing endocrine systems. It operates as an immune response only and appears to have only temporary effects. Research has shown that PZP has no negative impacts on the developing fetus and ensuing post-birth fertility (Kirkpatrick and Turner, 2003). Thus, if a filly is not yet sexually mature, there will be no negative impacts on her normal reproductive development. Research has shown that PZP does not appear to cause ill-effects to ovarian function unless contraception is actively repeated for more than five consecutive years on a given mare (Turner and Kirkpatrick, 2002; Kirkpatrick and Turner, 2002).

4) PZP Impacts on Mare Behavior

There is no existing evidence that contracepting mares will impact their behaviors and social facilitation roles within wild horse herds (Powell, 1999). Horses in the Pryor herd are not difficult to access, and many members of the public, BLM and scientific community routinely observe these animals. Early behavioral research began on this herd around the time the range was established (1968), and these efforts are considered landmark studies for wild horse behavior (Feist, 1971; Feist and McCullough, 1976).

To date, BLM and BRD-USGS employees have logged an average of five months of field observations during each year of study (1996-2006). Preliminary field data, collected by these trained observers, suggests no differences in mare position within the harem, distance from the stallion or estrus behavior between treated and untreated mares in this herd. Social facilitation in this herd is driven primarily by the stallions, not mares, and thus treating these older mares is not expected to have impacts on either “within or between” group interactions. These activities will, however, continue to be monitored as part of the research for individual-based trials under the Fertility Control Field Trial Plan (FCFTP).

5) Impacts of PZP on Foaling Seasonality

The effects of PZP continue to be carefully studied in the Pryor herd to corroborate data collected on Assateague Island National Seashore (ASIS) and in other western wild horse herds. Data from ASIS showed safety, efficacy, and no behavioral aberrations, including no late foaling effect or changes in band structure or behavior. Data from the PMWHR support these findings. The foaling season in the Pryors is primarily May and June but has been documented to extend from February to September. Four foals were born to previously PZP - treated mares in May and early June last year. Two foals were born to previously PZP - treated mares (#2108, 2010) last September and both survived the winter. One foal, born to a non-treated mare (#9520) in mid-September however, did not survive the winter. There is no valid scientific evidence that foals born in September are born outside of the normal foaling season for this herd.

6) The Use of PZP to Curtail the Need For Gathers

Many public comments indicated that PZP has not been effective enough in eliminating the need for more intrusive horse gathers and removals. Previous studies on Assateague Island National Seashore (ASIS) have shown that at least 50-80% of all breeding-age mares must be treated annually to effectively minimize herd growth to near zero. Currently only 24 of 67 breeding-age mares (36%) are being treated with PZP on the PMWHR. Herd recruitment is still resulting in an average of 24 foals surviving each year. This growth results in the need to remove horses occasionally to maintain a balance between grazing impacts and range carrying capacity. Given the uncertain impacts of natural mortality in the foals of this herd, BLM has chosen to support a conservative application of PZP at this time.

7) PZP Impacts on Herd Genetic Diversity

Intensive, long-term studies have shown that mares aged 3-13 years appear to primarily contribute to foal production in the Pryor herd. Generally, foal production drops considerable by the 14th year and ceases by the 16th year (BLM, BiFO #MT-010-05-16, figures 8, 11 and 13). Most mares do not live much beyond this age. Fertility control application with this herd is designed to target mares that are outside of the major core breeding age classes of 6-10 year old mares (Appendix 1). This assures that any treated older mares have had the opportunity to contribute genetically to the next generation on the PMWHR. The intent of BLM management, at this time (EA BLM-MT-010-FY06-19, Section 1.8), is also to allow the core genetic contributors within the herd to remain fertile, as recommended by Dr.Gus Cothran (April 2005):

“Any effort to reduce the Pryor Mountain Wild Horse Herd to 100 horses for a period up to five years, so that range improvements can occur, has the potential to have little impact upon the genetic diversity of the herd. This depends upon maintaining the core of the reproducing individuals and concentrating any removals (or fertility control) on the young and the individuals that are likely past their reproductive years. If the reproductive core is maintained, this will retain most of the genetic variation in the herd. “

The potential impacts of fertility control on herd genetic diversity will, however, continue to be monitored as part of the research for individual-based trials under the Fertility Control Field Trial Plan (FCFTP) and will be addressed within the revision of the

HMAP. In the interim, mitigation measures continue to include drawing and evaluating blood samples from any Pryor horses brought into the Britton Springs Administrative Site during management efforts.

8) Bait-Trapping Contract

Request for bids on the bait-trapping contract for the PMWHR closed on May 17, 2006. Awarding of the contract does not occur until after release of the Record of Decision. BLM has sought to encourage the most experienced bait-trapping contractors available to submit bids. BLM is convinced that bait-trapping represents a more humane and less intrusive method of capturing and removing excess horses from the Pryor herd.

The contract was specifically written so that the contractor will only be paid for selected animals to be removed and transported to Britton Springs Administrative Site. The contractor will not be paid for every animal captured and handled. As a result BLM expects a minimum of horses to be captured, sorted and handled during these removal operations. Sorting procedures within the trap will be deliberately slow and cautious. Younger horses, targeted for removal, will be held and transported with companions.

The contractor, as well as BLM, will be responsible for assuring the health and welfare of each and every animal captured, handled and transported to Britton Springs. While BLM cannot guarantee that no injuries will occur to individual animals during sorting, we anticipate this removal method to be safe, effective and much less intrusive to the herd as a whole.

9) Inbreeding within the PMWHR

Reduced herd diversity increases the possibility that characteristics will appear which might impact herd health or the production of healthy foals in a wild horse herd. Baseline genetic diversity has been determined by the analysis of blood samples collected during gathers in 1991, 1994, 1997 and 2001 on the PMWHR. According to these studies (Cothran, 2002; Cothran and Singer, 2000), current levels of genetic diversity within the Pryor Mountain herd are relatively high for a wild horse population, are well above the mean for domestic breeds, and have been sustained over this time period. Any significant loss of diversity over time can be detected by evaluating an inbreeding coefficient which measures observed diversity in the herd in comparison to what might be expected. These techniques are currently been applied to all managed BLM wild horse herds. Presently, there is no evidence of deleterious inbreeding in the Pryor herd.

10) Effective Genetic Population Size

The genetic effective population size (N_e) is a measure of the total number of mares and stallions which contribute genetically, through successful breeding, to the next generation. Although no standard goal for N_e currently exists for wild horse and burro herds, a goal of " N_e " = 50, which comes from domestic breeding guidelines, can be conservatively applied. Populations, where " N_e " is calculated to be less than 50, may experience higher rates of loss of genetic diversity than would be considered acceptable under recommended management goals. Effective genetic population size is a difficult

number to determine and research on wild horses is still inconclusive (BLM Wild Horse and Burro Population Viability Forum, 2000).

Preliminary research has demonstrated that the “Ne”, for a herd under a natural age structure, is about 30-35% of the total census population size. This suggests that a total herd size of about 150 animals might support a minimum genetic effective population size. However, we also know that even with 1000 horses within the PMWHR, at least a 10% loss of genetic diversity would occur over a 200 year period (Gross, 2000). This means that simply increasing herd size (or maintaining a specific herd size) will not guarantee genetic health of the herd.

Additional genetic research based on blood samples from horses in the PMWHR, collected in 1991 through 2001, is currently being prepared for publication. These data will further address any changes in herd genetic diversity and inbreeding over this ten year period. Current knowledge indicates that the level of inbreeding in the herd does not require immediate management action. The rate of loss of herd diversity in this ten year period (if any has occurred) may be used to help refine determinations of Ne for this herd. This will be further addressed in the pending HMAP revision.

11) Introducing Outside Horses to Supplement Herd Genetics

Nationally, BLM manages to maintain genetic diversity and prevent inbreeding within wild horse herds. The BLM recognizes specific phenotypic characters in the Pryor herd. Genetically the Pryor horses are ~80% related to most other breeds and types of horses, and all allelic material appears present in current domestic breeds (Cothran, 2002).

The Pryor herd does represent a unique combination of genetic material that is not readily available in current domestic breeds. It is a violation of the Wild Free-Roaming Horses and Burros Act (PL 92-125) to introduce domestic animals (previously adopted Pryor horses) to sustain genetics within a managed wild horse herd. The BiFO has been working with Drs. Phil Sponenberg and Gus Cothran to help identify a free-roaming herd that could potentially be used as a source of genetic supplementation for the Pryor herd. Both researchers have worked with the Pryor herd for over 15 years and respectively are well-published in Spanish horse characteristics and equine genetics. Dr. Sponenberg feels very strongly that the Pryor herd is a unique genetic resource and cannot be reconstituted from current domestic breeds of horses.

Given the current level of diversity within the PMWHR herd, introductions are not considered necessary at this time. However, as indicated in the EA # BLM-MT-010-FY06-19 (Section 1.8), horses from the North Needles portion of the Sulphur herd in Utah are currently being evaluated for degree of similarity (both phenotypically and genetically) with the Pryor horses. If the degree of similarity is significant then limited introductions of animals from this herd might be considered to help sustain herd diversity if the need should arise in the future. This would only be considered if genetic studies show that the herd is losing significant diversity over time. Genetic conservation within the Pryor herd will be further addressed in the pending HMAP revision.

12) Impacts of Predation on the Pryor Herd

BLM's field monitoring of wild horse mortality due to predation or other causes has been an on-going process for the past 11 years. This monitoring is at a level that is not required by BLM management but is encouraged by research efforts on the Pryors. During this period there have been noticeable increases in foal loss. The BiFO has only been able to positively identify the loss of three foals (# 2222, 2124, and 2029) due to mountain lion predation. A fourth foal (#2230) was attacked by a mountain lion, initially survived and then succumbed the following winter. Perceived impacts are highly variable from year to year. Bear predation has been more difficult to verify as most of the reported black bear impacts have resulted from the scavenging of carcasses. There is no evidence that any foal losses in 2005 were the result of predation. Also there is no evidence that additional predators, such as wolves, are impacting the herd.

At this time, under the existing conditions of natural mortality and average herd size, there has been an average of 24 surviving foals per year. This number has been more than sufficient to support a healthy and viable herd over the long term. Both historical data on the herd and models used to forecast the impacts of predation on foals and long-term herd demographics support this position.

BLM must make management decisions based on the best available information it has on hand. To speculate that predation impacts may increase or that more predators may move into the area is just that – speculation. However, mitigation measures are in place in case foal mortality should increase at any time over the next five years.

Presumably the Pryor herd has existed for over a 100 years and has already experienced and survived cycles of both natural predation and human impacts. Since predation on wild horses is a learned behavior for most natural predators, and primarily focused on the young of the year, substantial animal losses are not likely to happen overnight. This provides BLM ample opportunity to adjust management impacts accordingly.

13) Opportunities to Curtail Hunting on the PMWHR

BLM must manage the PMWHR within a balanced program that considers all public values including wild horses, wildlife, watershed, recreation, archeological and scenic values (Federal Register, Vol. 33, No. 173, September 12, 1986). Many public letters suggested that by banning hunting of mountain lions on the designated range, natural processes would limit herd size and eliminate the need for additional management. Historically there is little information to support this position. Long-term studies of herd demographics have shown that natural mortality (including predation on foals) has resulted in zero or negative herd growth in only three years within the last 30.

The BLM's mandate is to manage for balance in the ecosystem by adjusting variables over which it has legal management authority. The PMWHR is designated as a "No Predator Control Area" through the Wildlife Damage Management Plan with USDA, APHIS and Wildlife Services. No data exists at this time to indicate that if hunting were restricted on the Pryors that additional predation on the horse herd would occur. It is

likely that other, more typical prey species like Bighorn sheep, and deer would bear the brunt of increased predation impacts.

The BLM is not responsible for managing predators through hunting but does evaluate predator impact on the horse herd. Records from Montana Fish, Wildlife and Parks indicate that an average of 0 to 2 lions per year have been harvested from the Pryor complex in the last decade or so. Some wildlife officials and hunters which use District 510 do not feel that hunting is significantly impacting the mountain lion population that might use that area as part of their habitat. Few lions have been reportedly taken from the designated range. This means that a much larger area than the PMWHR would need to be included within hunting bans in order to impact the lion population. Any hunting bans would undoubtedly impact resources within a much larger area than just the PMWHR. Appropriately these multiple-use issues must be considered within agency land use plan revisions and final determinations coordinated with State Wildlife officials. These efforts are considered long-term and beyond the scope of the current EA.

14) Rangeland Health and Trend

BLM is responsible for and has done its own range monitoring for actual use, forage utilization, and trend as required by law. These data have been used to support determination of excess horses prior to the scheduling of gathers on the Pryors in 1997, 2001, 2003 and 2006. These data continue to be collected and would, by law, be used to support any future gather activity.

By definition trend is not monitored annually but generally over a larger time scale of 5-20 years. Trend studies are used to evaluate long-term changes in the forage resource and range condition. BLM intends to reassess PMWHR trend within the next 5 to 10 years. Prior to 1998, BLM monitoring indicated that the designated range was showing a small upward trend in range health (report available by contacting BiFO). Since then, a more thorough study (Ricketts, 2004) has indicated that cumulative impacts, including weather, drought and grazing, have resulted in an apparent downward trend on 76% of the range. NRCS was chosen for this more extensive range survey (NRCS Pryor Mountain Wild Horse Range Survey and Assessment) because this agency is acknowledged as the technical experts in rangeland health analyses.

The study represents the results of cumulative impacts on range health, including drought impacts. However, once annual forage production levels were determined they were “normalized” for more average annual precipitation levels. NRCS was then able to provide an estimate of the number of horses the range could support given the current distribution and seasonal use patterns of the herd. NRCS did not further subdivide production levels to accommodate other grazing species. This determination was based on the results of previous competitive interaction studies (Kissell, 1996), which indicated that mule deer, Bighorn sheep and wild horses have separate seasonal and geographic impacts on forage resources.

Two public reviews of the NRCS study were submitted in 2005 which questioned methodology and results of the survey. These documents were submitted to the NRCS for review and response. Copies of the NRCS response to these reviews may be received by contacting BiFO.

15) PMWHR Range and Facility Improvements

Range improvements over the last decade have involved primarily water sources and fencing within the designated horse range. The PMWHR program has not been funded for range improvements and resources to support these improvements have been largely contributed funds involving substantial assistance from public volunteers. Replacement tanks, repairs and riparian improvements have occurred at Britton Springs, Sykes Springs, Burnt Timber and Sykes Central Ridge water catchments, Cottonwood Springs and Layout Creek. The upper elevation boundary (buck and pole) fenceline was repaired in 1997. Substantial renovations and improvements have occurred at the Britton Springs Administrative Site and corrals at the base of the PMWHR. Several miles of unnecessary interior fencing have been removed, cattle guards at access points to the horse range have been improved and boundary fencelines have been repaired repeatedly and extensively. Exclosures have been built and repaired to help assess grazing impacts within the PMWHR.

Ongoing agency discussions have focused on opportunities for further range improvement projects using recommendations from Ricketts (2004) and Wockner (2004). Planning for these projects must carefully consider wilderness values as much of the horse range consists of wilderness study areas (WSAs) and Areas of Critical Environmental Concern (ACECs). The BLM is required to make every effort not to allow wild horse herds within WSAs to degrade wilderness values or vegetative cover as it existed at the time of passage of the Federal Land Policy and Management Act (FLPMA) of 1976 (Public Law 94-579). Future projects, such as prescribed burns, are designed to assist with the restoration of range health on the designated range and may take several years to generate a desired result. In the interim, population control measures must continue in efforts to mitigate grazing impacts on drought stressed resources which have exceeded proper use levels within the horse range.

16) Range Expansion

Many public comments questioned the status of range expansion activity. Any and all efforts to evaluate range size and possible expansion (whether private, BLM, FS and/or NPS lands) to benefit the wild horses will involve more extensive interagency discussion, and appropriately must be considered within land use planning revisions scheduled to take place in 2007-2008. There are many legal issues and mandates that must be addressed before any level of resolution can be achieved. These efforts are considered long-term, appropriately addressed within land use planning revisions, and beyond the scope of the current EA.

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